

## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

|   |  |            |               |          |      |       |          |
|---|--|------------|---------------|----------|------|-------|----------|
| Title of Invention  | Method of Automatically Routing Nets According to Current Density Rules  |            |               |          |      |       |          |
| Application Number:   | 10/709843  |            |               |          |      |       |          |
| Confirmation Number:  | 3842   |            |               |          |      |       |          |
| First Named Applicant:  | Graham Balsdon   |            |               |          |      |       |          |
| Attorney Docket Number:   | 021648-000500US  |            |               |          |      |       |          |
| Search string:  | ( 5793643 or 5801959 or 6543043 or 6408427<br>or 6349403 or 6324675 or 6282693 or 6301693<br>or 6526555 or 6687893 ).pn. |            |               |          |      |       |          |
| <b>US Patent Documents</b>  |  |            |               |          |      |       |          |
| Note: Applicant is not required to submit a paper copy of cited US Patent Documents |  |            |               |          |      |       |          |
| init  | Cite.No.   | Patent No. | Date          | Patentee | Kind | Class | Subclass |
| 1   | 5793643  | 1998-08-11 | Cai           |          |      |       |          |
| 2   | 5801959  | 1998-09-01 | Ding et al.   |          |      |       |          |
| 3   | 6543043  | 2003-04-01 | Wang et al.   |          |      |       |          |
| 4   | 6408427  | 2002-06-18 | Cong et al.   |          |      |       |          |
| 5   | 6349403  | 2002-02-19 | Dutta et al.  |          |      |       |          |
| 6   | 6324675  | 2001-11-27 | Dutta et al.  |          |      |       |          |
| 7   | 6282693  | 2001-08-28 | Naylor et al. |          |      |       |          |
| 8   | 6301693  | 2001-10-09 | Naylor et al. |          |      |       |          |
| 9   | 6526555  | 2003-02-25 | Teig et al.   |          |      |       |          |
| 10  | 6687893  | 2004-02-03 | Teig et al.   |          |      |       |          |

Signature

|               |         |
|---------------|---------|
| Examiner Name | Date    |
| PHALLAKA KIK  | 4/25/06 |

eFiling Date: 6/06/2005

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| Application Number :  | 10/709843  |            |  |          |      |       |          |
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| First Named Applicant:  | Graham Balsdon   |            |  |          |      |       |          |
| Attorney Docket Number:   | 021648-000500US  |            |  |          |      |       |          |
| Art Unit:   | 2825   |            |  |          |      |       |          |
| Examiner:   | Phallaka Kik   |            |  |          |      |       |          |
| Search string:  | ( 6734472 or 6711727 or 6671859 or 6662348 or 6598215 or 6564366 or 6543043 or 6526555 or 6510545 or 6507941 or 6480996 or 6480993 or 6408427 or 6349403 or 6324675 or 6301693 or 6282693 or 6219823 or 5880969 or 5801959 or 5757089 or 5550748 or 5375069 or 5353235 or 5272645 or 5072402 or 4965739 or 4815003 or 4811237 ).pn |            |  |          |      |       |          |
| <b>US Patent Documents</b>  |  |            |  |          |      |       |          |
| Note: Applicant is not required to submit a paper copy of cited US Patent Documents |  |            |  |          |      |       |          |
| init  | Cite.No.   | Patent No. | Date   | Patentee | Kind | Class | Subclass |
| 1   | 6734472  | 2004-05-11 | Ho   |          |      |       |          |
| 2   | 6711727  | 2004-03-23 | Teig et al.  |          |      |       |          |
| 3   | 6671859  | 2003-12-30 | Naylor et al.  |          |      |       |          |
| 4   | 6662348  | 2003-12-09 | Naylor et al.  |          |      |       |          |
| 5   | 6598215  | 2003-07-22 | Das et al.   |          |      |       |          |
| 6   | 6564366  | 2003-05-13 | Marchenko et al.   |          |      |       |          |
| 7   | 6543043  | 2003-04-01 | Wang et al.  |          |      |       |          |
| 8   | 6526555  | 2003-02-25 | Teig et al.  |          |      |       |          |
| 9   | 6510545  | 2003-01-21 | Yee et al.   |          |      |       |          |
| 10  | 6507941  | 2003-01-14 | Leung et al.   |          |      |       |          |
| 11  | 6480996  | 2002-11-12 | Aji et al.   |          |      |       |          |
| 12  | 6480993  | 2002-11-12 | Suto et al.  |          |      |       |          |
| 13  | 6408427  | 2002-06-18 | Cong et al.  |          |      |       |          |
| 14  | 6349403  | 2002-02-19 | Dutta et al.   |          |      |       |          |
| 15  | 6324675  | 2001-11-27 | Dutta et al.   |          |      |       |          |
| 16  | 6301693  | 2001-10-09 | Naylor et al.  |          |      |       |          |
| 17  | 6282693  | 2001-08-28 | Naylor et al.  |          |      |       |          |
| 18  | 6219823  | 2001-04-17 | Hama et al.  |          |      |       |          |
| 19  | 5880969  | 1999-03-09 | Hama et al.  |          |      |       |          |
| 20  | 5801959  | 1998-09-01 | Ding et al.  |          |      |       |          |

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|----|---------|------------|-------------------|--|--|--|
| 21 | 5757089 | 1998-05-26 | Ishizuka          |  |  |  |
| 22 | 5550748 | 1996-08-27 | Xiong             |  |  |  |
| 23 | 5375069 | 1994-12-20 | Satoh et al.      |  |  |  |
| 24 | 5353235 | 1994-10-04 | Do et al.         |  |  |  |
| 25 | 5272645 | 1993-12-21 | Kawakami et al.   |  |  |  |
| 26 | 5072402 | 1991-12-10 | Ashtaputre et al. |  |  |  |
| 27 | 4965739 | 1990-10-23 | Ng et al.         |  |  |  |
| 28 | 4815003 | 1989-03-21 | Putatunda et al.  |  |  |  |
| 29 | 4811237 | 1989-03-07 | Putatunda et al.  |  |  |  |

Signature 

|               |         |
|---------------|---------|
| Examiner Name | Date    |
| BHALLAL KIK   | 4/25/06 |

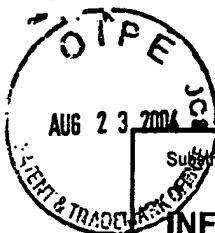
eFiling date: 6/06/2005

## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

| Title of Invention   | Method of Automatically Routing Nets According to Current Density Rules |            |  |          |      |       |          |
|--|---|------------|--|----------|------|-------|----------|
| Application Number :   | 10/709843   |            |  |          |      |       |          |
| Confirmation Number:   | 3842  |            |  |          |      |       |          |
| First Named Applicant:   | Graham Balsdon  |            |  |          |      |       |          |
| Attorney Docket Number:  | 021648-000500US   |            |  |          |      |       |          |
| Art Unit:  | 2825  |            |  |          |      |       |          |
| Examiner:  | Phallaka Kik  |            |  |          |      |       |          |
| Search string:   | ( 6480996 or 5500804 or 4615011 or 4673966 or 4777606 ).pn              |            |  |          |      |       |          |
| <b>US Patent Documents</b>   |   |            |  |          |      |       |          |
| <b>Note: Applicant is not required to submit a paper copy of cited US Patent Documents</b> |   |            |  |          |      |       |          |
| init   | Cite.No.  | Patent No. | Date   | Patentee | Kind | Class | Subclass |
| 1  | 6480996   | 2002-11-02 | Aji et al.   |          |      |       |          |
| 2  | 5500804   | 1996-03-19 | Honsinger et al.   |          |      |       |          |
| 3  | 4615011   | 1986-09-30 | Linsker  |          |      |       |          |
| 4  | 4673966   | 1987-06-16 | Shimoyama  |          |      |       |          |
| 5  | 4777606   | 1988-10-11 | Fournier   |          |      |       |          |
| <b>Signature</b> <u>Phallaka Kik</u>   |   |            |  |          |      |       |          |
| Examiner Name  |   |            |  | Date     |      |       |          |
| PHALLAKA KIK   |   |            |  | 6/25/06  |      |       |          |



Substitute for form 1449A/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

|                        |  |  | Complete If Known |        |
|------------------------|--|--|-------------------|--------|
| Application Number     |  |  | 10/709,843        |        |
| Filing Date            |  |  | June 1, 2004      |        |
| First Named Inventor   |  |  | Balsdon, Graham   |        |
| Art Unit               |  |  | 2825              |        |
| Examiner Name          |  |  | To Be Assigned    | P. KIK |
| Attorney Docket Number |  |  | 21648-000500US    |        |

## U.S. PATENT DOCUMENTS+

| Examiner Initials* | Cite No. <sup>1</sup> | Document Number<br>Number Kind Code <sup>2</sup> (if known) | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages or Relevant<br>Figures Appear |
|--------------------|-----------------------|---|--------------------------------|--|---|
| AA                 | US-                   |   |                                |  |   |
| AB                 | US-                   |   |                                |  |   |
| AC                 | US-                   |   |                                |  |   |
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| AE                 | US-                   |   |                                |  |   |
| AF                 | US-                   |   |                                |  |   |
| AG                 | US-                   |   |                                |  |   |
| AH                 | US-                   |   |                                |  |   |
| AI                 | US-                   |   |                                |  |   |
| AJ                 | US-                   |   |                                |  |   |
| AK                 | US-                   |   |                                |  |   |
| AL                 | US-                   |   |                                |  |   |
| AM                 | US-                   |   |                                |  |   |

## FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. <sup>1</sup> | Foreign Patent Document   |                     |                                   | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited<br>Document | Pages, Columns, Lines,<br>Where Relevant<br>Passages or Relevant<br>Figures Appear | T <sup>6</sup>           |
|--------------------|-----------------------|---------------------------|---------------------|-----------------------------------|--------------------------------|---|--|--------------------------|
|                    |                       | Country Code <sup>3</sup> | Number <sup>4</sup> | Kind Code <sup>5</sup> (if known) |                                |   |  |                          |
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| AO                 |                       |                           |                     |                                   |                                |   |  | <input type="checkbox"/> |
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| BB                 |                       |                           |                     |                                   |                                |   |  | <input type="checkbox"/> |

Examiner Signature

*Phalle*

Date Considered

4/25/06

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Kind Codes of U.S. Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

60285752 v1

|  |                |    |   |                          |  |
|--|----------------|----|---|--------------------------|--|
| Substitute for form 1449B/PTO                        |                |    |   | <i>Complete if Known</i> |  |
| <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> |                |    |   |                          |  |
| (use as many sheets as necessary)                    |                |    |   |                          |  |
| Sheet  | 2              | of | 2 |                          |  |
| Attorney Docket Number                               | 21648-000500US |    |   |                          |  |

| <b>NON PATENT LITERATURE DOCUMENTS</b> |                       |   |  |                |
|--|-----------------------|---|--|----------------|
| Examiner Initials *                    | Cite No. <sup>1</sup> | Include name of the author (In CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |  | T <sup>2</sup> |
| <i>PR</i>                              | BC                    | FINCH, MACKENZIE, BALSDON, SYMONDS, "A Method for Gridless Routing of Printed Circuit Boards," Paper 32.2, 22nd Design Automation Conference, IEEE, 1985, PP. 509-515, Racal-Redac Ltd., Newton, Tewkesbury, Glos, United Kingdom.                              |  |                |
|  | BD                    |   |  |                |
|  | BE                    |   |  |                |
|  | BF                    |   |  |                |
|  | BG                    |   |  |                |
|  | BH                    |   |  |                |
|  | BI                    |   |  |                |
|  | BJ                    |   |  |                |
|  | BK                    |   |  |                |
|  | BL                    |   |  |                |
|  | BM                    |   |  |                |

|                    |                    |                 |                |
|--------------------|--------------------|-----------------|----------------|
| Examiner Signature | <i>Shallal Kik</i> | Date Considered | <i>4/25/06</i> |
|--------------------|--------------------|-----------------|----------------|

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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

*eFiling Date: 6/22/2005*

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Stylesheet Version v18.0

|                           |   |
|---------------------------|---|
| <b>Title of Invention</b> | METHOD OF AUTOMATICALLY ROUTING NETS ACCORDING TO CURRENT DENSITY RULES |
|---------------------------|---|

Application Number : 10/709843



Confirmation Number: 3842

First Named Applicant: Graham Balsdon

Attorney Docket Number: 021648-000500US

Art Unit: 2825

Examiner: *P. KIK*

Search string: ( 6895567 or 4782193 or 4855253 or 5541005 or 5635736 or 5637920 or 5640327 or 5646830 or 5650653 or 5689433 or 5723908 or 5784289 or 5801385 or 5811863 or 5822214 or 5880969 or 5889329 or 5980093 or 6111756 or 6150193 or 6260183 or 6262487 or 6263475 or 6301686 or 6307256 or 6316838 or 6323097 or 6324674 or 6412097 or 6448591 or 6516455 or 6645842 or 20010004763 or 20010009031 or 20020069397 or 20030025205 ).pn

### US Patent Documents

**Note: Applicant is not required to submit a paper copy of cited US Patent Documents**

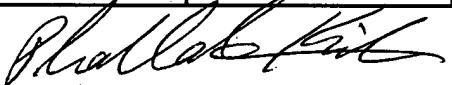
| init | Cite.No. | Patent No. | Date | Patentee        | Kind | Class | Subclass |
|------|----------|------------|------|-----------------|------|-------|----------|
| 1    | 6895567  | 2005-05-17 |      | Teig et al.     |      |       |          |
| 2    | 4782193  | 1988-11-30 |      | Linsker         |      |       |          |
| 3    | 4855253  | 1989-08-30 |      | Weber           |      |       |          |
| 4    | 5541005  | 1996-07-30 |      | Bezama et al.   |      |       |          |
| 5    | 5635736  | 1997-06-30 |      | Funaki et al.   |      |       |          |
| 6    | 5637920  | 1997-06-30 |      | Loo             |      |       |          |
| 7    | 5640327  | 1997-06-30 |      | Ting            |      |       |          |
| 8    | 5646830  | 1997-07-30 |      | Nagano          |      |       |          |
| 9    | 5650653  | 1997-07-30 |      | Rostoker et al. |      |       |          |
| 10   | 5689433  | 1997-11-30 |      | Edwards         |      |       |          |
| 11   | 5723908  | 1998-03-30 |      | Fuchida et al.  |      |       |          |
| 12   | 5784289  | 1998-07-30 |      | Wang            |      |       |          |
| 13   | 5801385  | 1998-09-30 |      | Endo et al.     |      |       |          |
| 14   | 5811863  | 1998-09-30 |      | Rostoker et al. |      |       |          |
| 15   | 5822214  | 1998-10-30 |      | Rostoker et al. |      |       |          |
| 16   | 5880969  | 1999-03-30 |      | Hama et al.     |      |       |          |
| 17   | 5889329  | 1999-03-30 |      | Rostoker et al. |      |       |          |
| 18   | 5980093  | 1999-11-30 |      | Jones et al.    |      |       |          |
| 19   | 6111756  | 2000-08-30 |      | Moresco         |      |       |          |

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|----|---------|------------|-------------------|--|--|--|
| 20 | 6150193 | 2000-11-30 | Glenn             |  |  |  |
| 21 | 6260183 | 2001-07-30 | Raspopovic et al. |  |  |  |
| 22 | 6262487 | 2001-07-30 | Igarashi et al.   |  |  |  |
| 23 | 6263475 | 2001-07-30 | Toyonaga et al.   |  |  |  |
| 24 | 6301686 | 2001-10-30 | Kikuchi et al.    |  |  |  |
| 25 | 6307256 | 2001-10-30 | Chiang et al.     |  |  |  |
| 26 | 6316838 | 2001-11-30 | Ozawa et al.      |  |  |  |
| 27 | 6323097 | 2001-11-30 | Wu et al.         |  |  |  |
| 28 | 6324674 | 2001-11-30 | Andreev et al.    |  |  |  |
| 29 | 6412097 | 2002-06-30 | Kikuchi et al.    |  |  |  |
| 30 | 6448591 | 2002-09-30 | Juengling         |  |  |  |
| 31 | 6516455 | 2003-02-28 | Teig et al.       |  |  |  |
| 32 | 6645842 | 2003-11-28 | Igarashi et al.   |  |  |  |

## US Published Applications

Note: Applicant is not required to submit a paper copy of cited US Published Applications

| init | Cite.No.    | Pub. No.   | Date | Applicant    | Kind | Class | Subclass |
|------|-------------|------------|------|--------------|------|-------|----------|
| 1    | 20010004763 | 2001-06-28 |      | Kato         |      |       |          |
| 2    | 20010009031 | 2001-07-28 |      | Nitta et al. |      |       |          |
| 3    | 20020069397 | 2002-06-28 |      | Teig et al.  |      |       |          |
| 4    | 20030025205 | 2003-02-28 |      | Shively      |      |       |          |

Signature 

| Examiner Name | Date    |
|---------------|---------|
| PHALAKA KIK   | 4/25/06 |